



COMPANY PROFILE



CHUGAI TECHNOS VIETNAM COMPANY LIMITED

Smart Life Engineering

Smart Technology, Smart Future



■ Registration certificate

- Certificate of registration of testing activities in the field of environmental monitoring – registration number **086/TN-QTMT** issued by the Ministry of Natural Resources and Environment under Decision No. 1067/QD-BTNMT dated on May 20, 2022.
- Certificate of eligibility for environmental monitoring services – code **VIMCERTS 086** (3rd time) issued by the Ministry of Natural Resources and Environment under Decision No. 1067/QD-BTNMT dated on May 20, 2022.

1. Exhaust gas (according to JIS and USEPA method)

1.1. Environmental monitoring:

1.1.1. Field measurement: temperature, pressure, velocity, flow rate, molecular weight, moisture content, NO_x, SO₂, CO, O₂, CO₂.

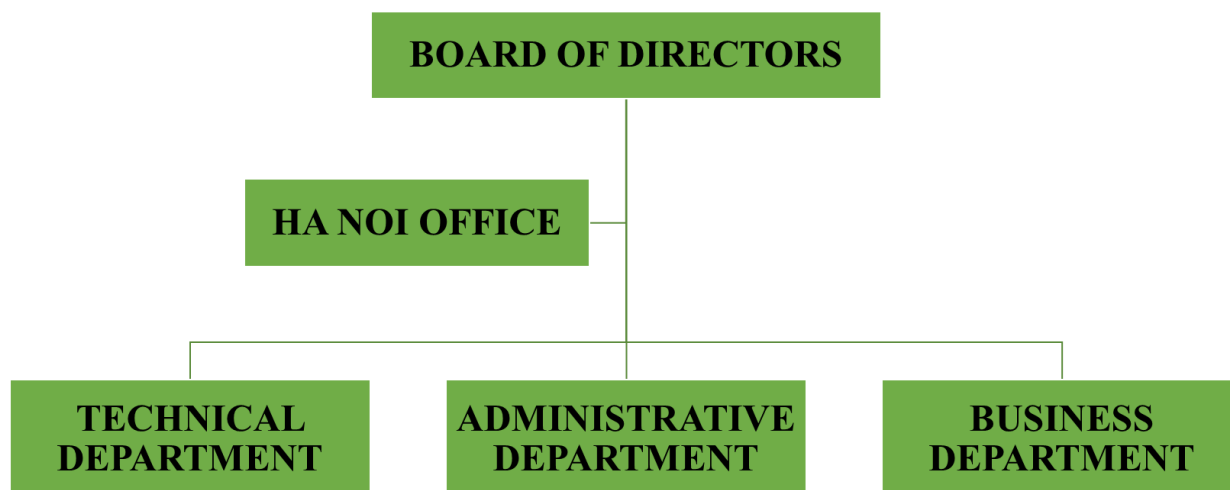
1.1.2. Sampling and preservation: total dust, NO_x, SO₂, HCl, HBr, HF, Cl₂, Br₂, H₂SO₄, NH₃, heavy metal.

1.2. Environmental analysis: total dust, NO_x, SO₂, HCl, HBr, HF, Cl₂, Br₂, H₂SO₄, NH₃.

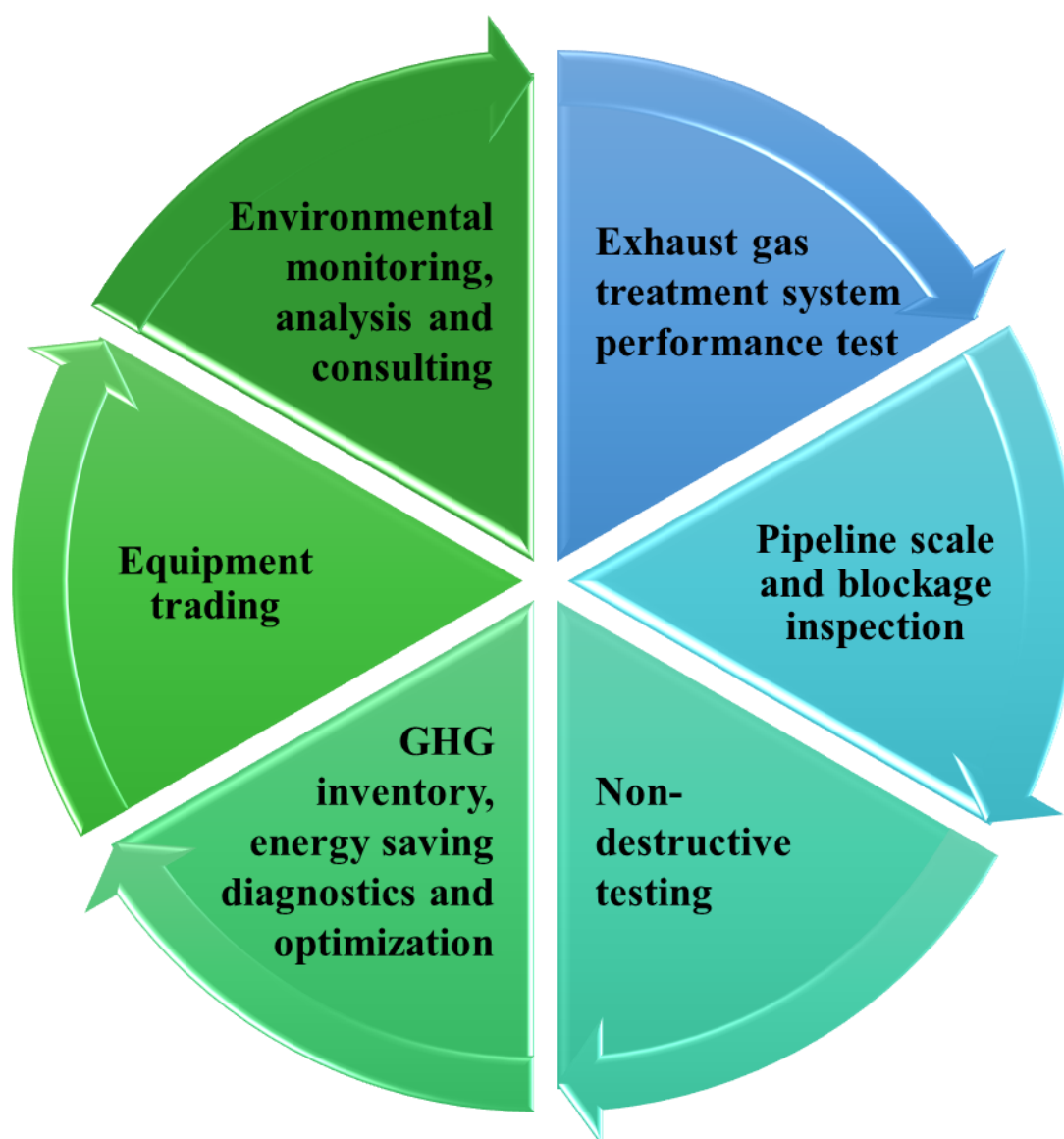
■ Company profile

- Established date: April 7, 2014
- Company name: Chugai Technos Vietnam Co., Ltd
- Head Office: No. 12, Lot K, Hoang Quoc Viet Street, Phu My Ward, District 7, Ho Chi Minh City
- Hanoi Office: 9th Floor, Gelex Tower, No. 52 Le Dai Hanh, Le Dai Hanh Ward, Hai Ba Trung District, Hanoi City
- Telephone: 028-3620-9222
- Fax: 028-3620-9285
- Charter capital: 39,790,700,000 VND
- Tax code: 0312737198
- Email: info@chugai-tec-vn.com
- Website: <https://chugai-tec-vn.com/>
- Direct management agency: Chugai Technos Corporation – Japan
- Business license: Technical analysis and verification; non-destructive testing; environmental consulting; equipment trading

■ Organizational chart



■ Main services



■ Environmental monitoring and analysis

Chugai Technos was certified of eligibility for environmental monitoring services with code **VIMCERTS 086** by the Ministry of Natural Resources and Environment under Decision No. 1067/QD-BTNMT dated on May 20, 2022.

Chugai Technos always focuses on updating, upgrading and perfecting the standard and equipment system with the goal of providing fast, accurate and reliable environmental monitoring and analysis services. All technical staffs are highly trained in environmental monitoring and analysis at Chugai Technos Corporation in Japan. Equipment and instruments are conducted periodic internal inspection and external calibration.

In addition, we also cooperates with qualified subcontractor, certified for special criteria on pesticides, special inorganic and organic parameters of exhaust gas, waste water, soil, sludge sample, etc; and monitoring the working environment to fully meet the requirements of all types of facilities.

【Environmental monitoring and analysis service】

- Measuring microclimate, monitoring ambient air and working environment;
- Monitoring and analyzing samples of boiler exhaust gas, furnace exhaust gas, industrial factory exhaust gas, chimney exhaust gas, etc.;
- Analyzing samples of surface water, wastewater, groundwater, sea water, etc.
- Analyzing samples of sludge, soil, sediments, etc.



▲ Continuous monitoring of pollutants



▲ Emissions monitoring

■ Pipeline scale and blockage inspection

The Scale Checker device uses a small amount of radiation (Cs-137), the transmitted radiation dose is handled by a program, which can check for pipeline blockage according to the principle of non-destructive testing. Through the Scale Checker device, it is possible to quickly check the presence of scale in the pipeline and the deposition rate (blockage rate). Besides, it is possible to analyze the composition of the scale and show the results as a percentage of the element.

【Application】

The pipelines in the factory, seawater pipelines, powder transport pipelines, gas pipelines, water supply and drainage pipelines, etc.

【Material】

Steel pipe (carbon steel, SUS), PVC pipe, etc.

【Size standard】

Without fluid in piping: Diameter 50 - 600 mm.

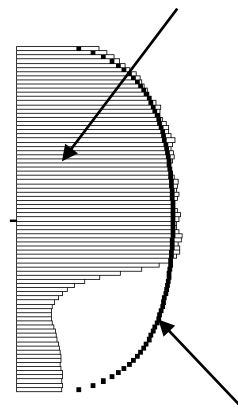
Existence of fluid in piping: Diameter 50 - 300 mm

【Feature】

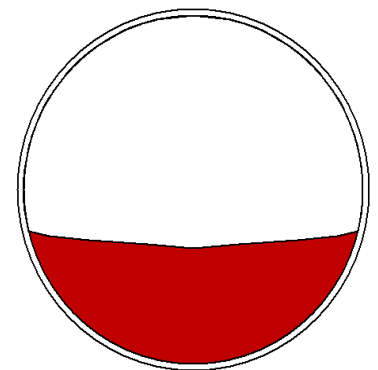
- ✓ Inspection is possible without removing the piping;
 - ✓ Inspection is possible without removing the heat insulating material;
 - ✓ Inspection is possible even present of fluid in the pipe;
 - ✓ Inspection is possible even during plant operation.
- * Also, certain conditions are required.

Actual transmitted radiation

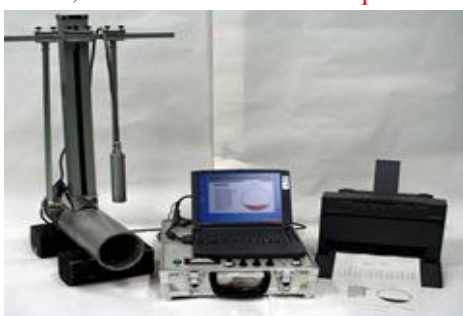
Blockage rate: 35 %



Theoretical transmitted radiation



▲ Example of inspection results



▲ Scale Checker device



▲ Inspection execution process



■ Exhaust gas treatment system performance test

Based on the experience of more than 40 years of Chugai Technos Corporation in exhaust gas treatment system survey and performance test; we ensure provide accurate, reliable and timely data to plant operators on the of exhaust gas parameters.

Chugai Technos is equipped with a modern equipment system that complies with JIS and USEPA standards, which can flexibly meet almost all emission monitoring positions in the factory. Chugai Technos not only performs emission monitoring, but also combines with performance test and diagnostics of system. Performance test services in thermal power plant including: combustion tuning test for boiler, AIG tuning, performance test for SCR (selective catalytic reduction), APH (air preheater), ESP (electrostatic precipitator), FGD (flue gas desulfurization), ME (mist eliminator), etc. and similar systems of petrochemical refinery, cement, incinerators, other production facilities.

Monitoring objects:

- NO_x, CO, SO₂, SO₃, NH₃ in exhaust gas;
- Pollutants that not specified in the emission regulations;
- Total dust, particle size;
- Mist concentration;
- Monitoring emissions at various plants;
- Performance test: Boiler, Air Preheater, Dust Collectors; De-NO_x, De-SO_x, Scrubber, Mist Eliminator, etc.

Confirmation of survey purpose

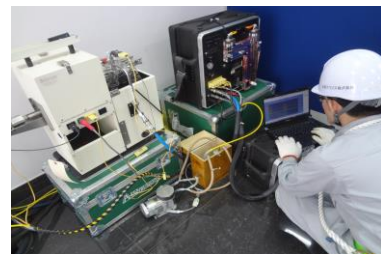
Proposal of optimal survey method

Survey and monitoring at the site

Results analysis and evaluation



▲ Flue gas analyzer



▲ Isokinetic sampling equipment

◆ Environmental services at the plant

【Monitoring and analysis at the plant】

- Monitoring of temperature, pressure, flow rate, dust, NO_x, CO, SO₂, O₂, unburned carbon to confirm the combustion efficiency of the boiler;
- Analysis of coal, slag and fly ash;
- Analysis of ammonia slip of De-NO_x system;
- Analysis of slurry, absorption solution of De-SO_x system;
- Chimney emission monitoring.

【Adjustment test】

- Boiler combustion tuning test;
- AIG tuning for SCR system.

【Performance test】

- Confirm the performance of boiler, APH, ESP, SCR, FGD, ME, etc. through emissions monitoring.

【Result of performance test】

- ✓ Reduce electricity consumption;
- ✓ Reduce amount of chemicals used;
- ✓ Reduce waste;
- ✓ Maintain performance;
- ✓ Increase equipment life;
- ✓ Energy saving;
- ✓ Environmental protection.



▲ Thermal power plant



▲ Cement plant



▲ Waste incinerator



▲ Petrochemical refinery



▲ Chemical plant



▲ Other production plant

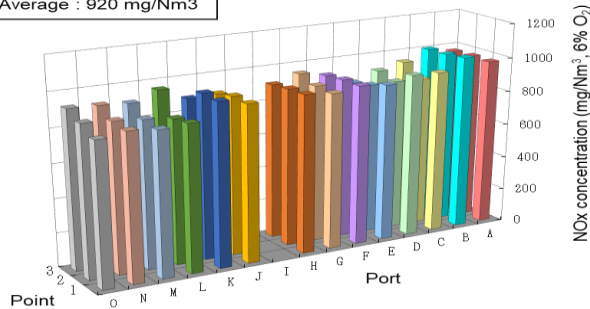
Exhaust gas treatment system performance test

Chugai Technos's engineering team will perform monitoring and analysis of exhaust gas: temperature, pressure, velocity, flow rate, moisture content, gas composition, pollutants concentration, dust concentration and reporting data quickly to plant's operation team to confirm the performance of system such as boiler, APH, ESP, SCR, FGD, ME, etc. combine with commissioning engineers to find optimal operating conditions for the device.

Report detailed results of each item, describe the concentration distribution, compare and comment on the test results for the diagnosis and adjustment of the device in the factory, show as below:

SCR Inlet - Performance Test

Average : 920 mg/Nm³

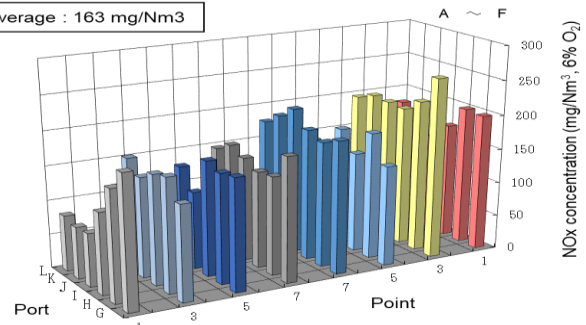


Standard deviation : 46 mg/Nm³

Coefficient of variation : 5.0 %

SCR Outlet - Performance Test

Average : 163 mg/Nm³

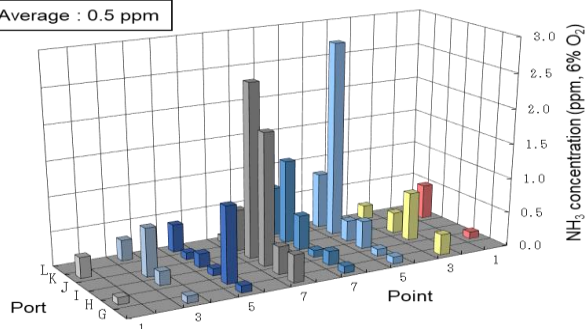


Standard deviation : 38 mg/Nm³

Coefficient of variation : 23.3 %

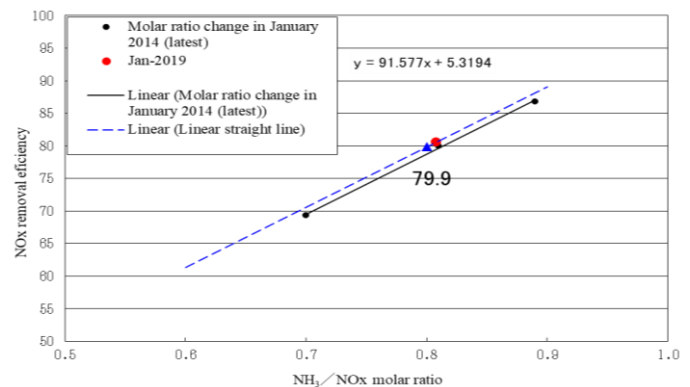
SCR Outlet - Performance Test

Average : 0.5 ppm



Standard deviation : 0.6 ppm

Coefficient of variation : 120.0 %



Item	Measurement and analysis	Confirmation and improvement
Boiler performance test	Temperature, pressure, flow rate, NO _x , CO, O ₂ , SO ₂ , SO ₃ , dust, unburned carbon, coal fineness	Air ratio balance, coal mill efficiency, combustion efficiency
SCR performance test	Temperature, pressure, flow rate, NO _x , O ₂ , SO ₂ , SO ₃ , NH ₃ Analysis of catalyst, fly ash	NO _x removal efficiency, NO _x outlet, ammonia slip, NH ₃ /NO _x molar ratio, SO ₂ conversion rate Evaluation of catalyst performance
AIG Tuning	NO _x , O ₂ , NH ₃	NH ₃ consumption, NO _x outlet distribution, optimization of AIG
APH performance test	Temperature, pressure, CO ₂ , O ₂	APH leakage coefficient, thermal conversion efficiency, pressure loss
ESP performance test	Temperature, pressure, flow rate, dust, unburned carbon Analysis of fly ash	Dust collection efficiency, dust concentration distribution
FGD performance test	Temperature, pressure, flow rate, SO ₂ , SO ₃ , dust, particle size	Desulfurization efficiency, SO ₂ concentration distribution
ME performance test	Mist concentration	Mist removal efficiency

* Through performance test, it is possible to understand the current conditions and actual performance of the device so that timely solutions can be given to improve the performance and prolong the life of the device.

■ Greenhouse gas inventory, energy saving diagnostics and optimization

Synthesize annual energy consumption, calculate greenhouse gas (GHG) emissions, propose mitigation measures, develop a mitigation plan, and verify the effectiveness of the mitigation plan.

Step 1

- Summary of energy consumption
- Calculate GHG emissions



Facility

Step 2

- Propose mitigation measures
- Develop mitigation plan

Communicate and discuss



Step 3

- Verify mitigation effectiveness



Gases causing the greenhouse effect

Mitigation plan



Chugai Technos

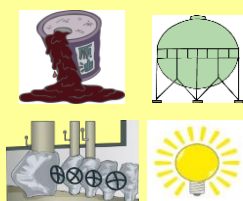
■ Develop mitigation measures and plans

For the most important mitigation measures, we will conduct simple energy efficiency diagnostics at the facility and propose operation improvements and energy saving renovations. Summarize the mitigation measures derived from this process and prepare a medium to long term mitigation plan.

By implementing mitigation measures derived from energy saving diagnostics and consideration of impacts, it will lead to reductions in energy use, costs and CO₂ emissions.

■ Energy saving optimization diagnostic process

Grasp the current situation



Understand the amount of energy used



Understand energy consuming equipment



Understand the operating status of the equipment

Survey at the facility



Prioritize surveys of equipment that use a lot of energy, confirm actual status

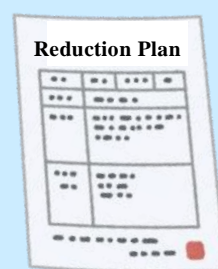
Make mitigation plan



Select items that need to be minimized



Arrange the measures



Complete the plan

Chugai Technos is a close partner of many equipment manufacturers from Japan and other countries, we ensure prompt delivery of high quality products with clear origin.

We provide equipment for solutions: Equipment for environmental monitoring and analysis; continuous emission monitoring system (CEMS) to control the emission process; equipment for sampling dioxin in the air; non-destructive testing equipment for inspecting parts to maintain quality during product manufacturing; UV inspection lamps to check for fluorescence deep scratches; other specialized analyzers such as the NH₃ analyzer, etc.

Products line:

- Environmental monitoring and analysis equipment;
- Continuous emission monitoring system (CEMS);
- Various analytical equipment and instruments;
- Non-destructive testing equipment;
- Endoscopy equipment and industrial microscopes;
- Infrared camera;
- Ultraviolet inspection lamps;
- X-ray related equipment;
- Penetration testing chemical;
- Welvina water purifier.



▲ Portable High Volume Air Sampler



▲ High Volume Air Sampler



▲ Ultrasonic Thickness Gauge



▲ Handheld XRF Analyzer



▲ Multi Gas Analyzer System



▲ Dust Monitor



▲ Flow Meter System



CHUGAI TECHNOS VIETNAM COMPANY LIMITED

Head Office: No. 12, Lot K, Hoang Quoc Viet Street, Phu My Ward, District 7, Ho Chi Minh City

Hanoi Office: 9th Floor, Gelex Tower, 52 Le Dai Hanh, Le Dai Hanh Ward, Hai Ba Trung District, Hanoi City

Telephone: +84-28-3620-9222; **Fax:** +84-28-3620-9285

Hotline: +84-909-714-566